Message

From: McSmith, Justin@Waterboards [Justin.McSmith@Waterboards.ca.gov]
Sent: 12/2/2021 11:10:26 PM
To: Sarah Torres [sarah.torres@pgenv.com]
CC: heaven.moore [heaven.moore@waterboards.ca.gov]; Audrey Signorelli Signorelli [audrey.signorelli@pgenv.com]; Elliott, Sunny [Elliott.Sunny@epa.gov]; Reed, Charles@Waterboards [Charles.Reed@waterboards.ca.gov]
Subject: RE: EP-R9-16-02 TO417 OY2 CA0024449_City of Eureka, Elk River WWTF_RPA

Good afternoon Sarah,

Thank you for providing the RPA for the City of Eureka Draft NPDES Permit. I have reviewed the RPA and everything looks good. One thing to note, I am expecting an ammonia modeling study from the City of Eureka today or tomorrow. The ammonia study is expected to show no exceedances of water quality objectives due to the dilution provided by the diffuser system and low ammonia background concentrations in Humboldt Bay itself. I was hoping to get the report to you early this week, but the City's internal review process is taking longer than expected.

I will send the report over once I receive the document. If we do not have time between when I get the report and the Draft permit delivery date, I will handle any changes necessary to the ammonia sections that come from the report. Thank you for all your hard work on these documents!

Justin

From: Sarah Torres <sarah.torres@pgenv.com>
Sent: Wednesday, November 24, 2021 11:31 PM
To: McSmith, Justin@Waterboards <Justin.McSmith@Waterboards.ca.gov>
Cc: Farsimadan, Afrooz@Waterboards <Afrooz.Farsimadan@Waterboards.ca.gov>; Chand, Gurgagn@Waterboards <Gurgagn.Chand@Waterboards.ca.gov>; Kozelka, Peter <Kozelka.Peter@epa.gov>; Permit Control <permitcontrol@pgenv.com>; Audrey Signorelli <Audrey.Signorelli@pgenv.com>; Elliott.Sunny@epa.gov
Subject: EP-R9-16-02 TO417 OY2 CA0024449_City of Eureka, Elk River WWTF_RPA

EXTERNAL:

Attached please find the reasonable potential analysis (RPA) for the City of Eureka, Elk River Wastewater Treatment Facility (NPDES No. CA0024449). A few things to note as you review the RPA:

1. The RPA was based on effluent and receiving water monitoring data collected between September 2016 and June 2018.
2. Receiving water hardness data was not collected, but reasonable potential for hardness-dependent metals was evaluated using a harness of 400 mg/L, as saline waters found in estuaries typically have harness concentrations in excess of 400 mg/L.
3. The Basin Plan designates a beneficial use of municipal and domestic supply (MUN) to Humboldt Bay. In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which establishes state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for MUN. Salinity in Humboldt Bay in the vicinity of the discharge exceeds the salinity threshold in Resolution No. 88-63 of 5,000 µS/cm. Therefore, consistent with Order No. R1-2016-0001, MCLs and CTR human health criteria for consumption of water and organisms were not considered when conducting the RPA.
4. The RPA indicates that cyanide and alpha-endosulfan exhibit reasonable potential. The proposed permit will include limits for these pollutants for discharges to the Humboldt Bay at Discharge Point 001.
5. The existing permit includes effluent limits for TCDD-equivalents. TCDD-equivalents do not exhibit reasonable potential; therefore, the proposed permit will not retain limits for TCDD-equivalents

6. Consistent with Order No. R1-2016-0001, we used a site-specific WER of 12.6 to calculate criteria for copper. The RPA indicated that copper does not exhibit reasonable potential; therefore the proposed permit will not retain limits for copper.
7. We calculated the 1989 saltwater ammonia criteria based on the maximum receiving water pH (8.1) and temperature (14°C) and minimum salinity (28 ppt). Ammonia concentrations ranged from 0.3 mg/L to 18 mg/L 0.38 mg/L, exceeding the applicable acute and chronic criteria of 8.85 and 1.33, respectively. The proposed permit will include ammonia limits, based on the ammonia impact ratio.
8. The effluent exhibited chronic toxicity to *M. pyrifera* germination and growth four times each using the TST approach. Based on the observed toxicity during the permit term, the proposed permit will establish an effluent limitation for chronic toxicity.
9. The existing permit includes mass-based effluent limits for BOD and TSS based on both peak dry weather design flow (8.6 mgd) and on the secondary treatment capacity (12.0 mgd) of the facility during periods of high I/I. Consistent with Arcata, we propose removing mass limits for BOD and TSS from the reissued permit, based on 40 C.F.R. section 122.45(f)(1)(ii), which exempts the application of mass-based limits, "*when applicable standards and limitations are expressed in terms of other units of measurement*."
10. We conducted an I/I analysis using the peaking factor equation from page 10-6 of the 10 States Standards and a population of 46,583 as indicated in the application, which results in a peaking factor of 2.3. Actual peaking factors exceeded the peaking factor of 2.3 on 36 occasions. We also calculated the per capita flows for comparison with the definitions of "excessive I/I" in 40 C.F.R. sections 35.2005(b)(28) and 133.103(d) (i.e., greater than 275 gallons per capita per day). There were 28 exceedances of 275 gpd per capita. I/I is a known issue for this facility, and is being addressed through CDO R1-2016-0012.
11. Note that we included a tab in the RPA to determine whether sufficiently sensitive methods were used to analyze priority pollutants. Of the parameters sampled, our review indicates 15 were not analyzed with sufficiently sensitive methods. The individual parameters in question are shown in the "SSM" tab of the RPA workbook.

Please let me know if you if you have any questions or if you would like to set up a call to discuss the results once you've had a chance to review the files.

Sincerely,
Sarah

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(she/her)
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